DEPARTMENT of ENVIRONMENTAL SERVICES Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: BLACK POND		Lake Area (ha):	24.28
Town: WINDSOR		Maximum depth (m):	5.3
County: Hillsbor	ough	Mean depth (m):	1.9
River Basin: Merrimac	·k	Volume (m³):	646500
Latitude: 43°06'41		Relative depth:	0.8
Longitude: 72°00'58	:'' W	Shore configuration:	1.10
Elevation (ft):	1058	Areal water load (m/yr)	: 14.58
Shore length (m):	2300	Flushing rate (yr ⁻¹):	7.80
Watershed area (ha):	800.4	P retention coeff.:	0.51
<pre>% watershed ponded:</pre>	0.6	Lake type: natura	l w/dam

BIOLOGICAL:	16 January 2003	31 July 2002	
DOM. PHYTOPLANKTON (% TOTAL) #1	ASTERIONELLA 95%	ASTERIONELLA 35%	
#2		TINY PENNATE DIATOM 30%	
#3		RHIZOSOLENIA 20%	
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)		7.91	
DOM. ZOOPLANKTON (% TOTAL) #1	CILIATE SPP. 82%	NAUPLIUS LARVA 32%	
#2	KELLICOTTIA 15%	COLLOTHECA 24%	
#3		KERATELLA 23%	
ROTIFERS/LITER	38	164	
MICROCRUSTACEA/LITER	<1	93	
ZOOPLANKTON ABUNDANCE (#/L)	204	257	
VASCULAR PLANT ABUNDANCE		Common/Abun	
SECCHI DISK TRANSPARENCY (m)		1.4	
BOTTOM DISSOLVED OXYGEN (mg/L)	3.8	0.9	
BACTERIA (E. coli, #/100 ml) #1		10	
#2		< 10	
#3			

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 2.5 Hypolimnion volume (m³): None

Anoxic volume (m^3) : 82250

CHEMICAL:			BLACK POR	N D		
	16 Janua	ary 2003	31 3	July 2002		
DEPTH (m)	1.5	3.0	1.0		3.0)
pH (units)	5.1	5.2	5.9		5.6	;
A.N.C. (Alkalinity)	1.6	1.7	1.2		3.0)
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.0)5
TOTAL KJELDAHL NITROGEN			0.50		0.4	0
TOTAL PHOSPHORUS	0.011	0.012	0.018		0.0)20
CONDUCTIVITY (µmhos/cm)	23.6	23.4	17.7		17.4	
APPARENT COLOR (cpu)	70	75	90		90	
MAGNESIUM			0.30			
CALCIUM			1.6			
SODIUM			1.4			
POTASSIUM			< 0.40			
CHLORIDE	< 3	< 3	< 3		< 3	
SULFATE	3	3	2		2	
TN : TP			28		20	
CALCITE SATURATION INDEX			5.1		•	

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 2002

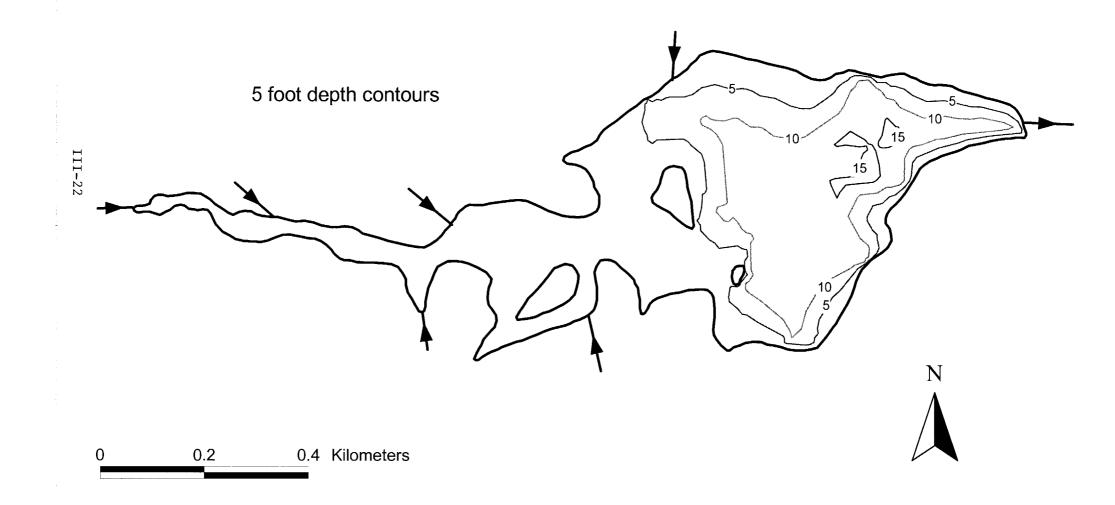
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	4	4	1	9	Meso.

COMMENTS:

- 1. Previously surveyed in 1982. There was little change in trophic parameters between the two years the pond was borderline meso/eutrophic in both years.
- 2. This is a dark tea-colored moderately acidic pond.
- 3. Poor access; boat was placed in over the bank next to the dam.
- 4. Little development on the pond two juvenile camps and a few cottages.

Black Pond

Windsor



FIELD DATA SHEET

LAKE: BLACK POND TOWN: WINDSOR

DATE: 07/31/2002 WEATHER: Clear, hot & breezy

DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION	
0.1	26.3	8.1	101 %	
1.0	25.4	7.9	97 %	
2.0	22.8	6.1	70 %	
3.0	16.0	0.6	6 %	
4.0	13.1	0.9	9 %	

SECCHI DISK (m): 1.4 COMMENTS:

BOTTOM DEPTH (m): 4.2

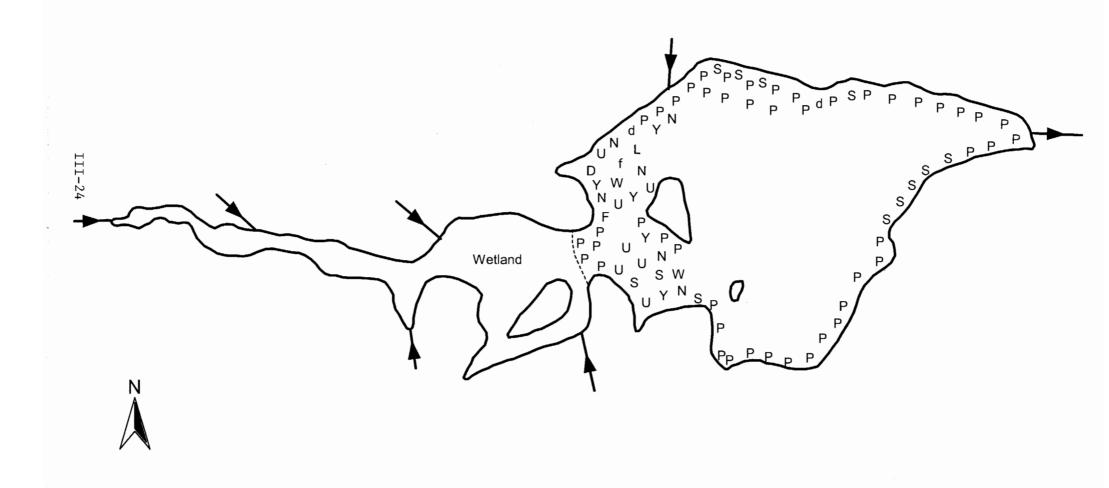
TIME: 1205

*Dissolved oxygen values are in mg/L

Black Pond

Windsor

0.3



0.6 Kilometers

AQUATIC PLANT SURVEY

LAK	E: BLACK POND	TOWN: WINDSOR	DATE: 07/31/2002
Vorr	PLANT	PLANT NAME	
Key	GENERIC	COMMON	ABUNDANCE
P	Pontederia cordata	Pickerelweed	Common/Abun
S	Sparganium	Bur reed	Common
d	Dulichium arundinaceum	Three-way sedge	Scattered
N	Nymphaea	White water lily	Common
Y	Nuphar	Yellow water lily	Common
L	Lysimachia terrestris	Swampcandle	Sparse
U	Utricularia	Bladderwort	Scat/Common
f	Chlorophyceae	Filamentous green algae	Scattered
D	Decodon verticillatus	Swamp loosestrife	Sparse
F	Nymphoides cordatum	Floating heart	Sparse
W	Potamogeton	Pondweed	Sparse
		,	

OVERALL ABUNDANCE: Common/Abun

GENERAL OBSERVATIONS:

1. Plants were abundant along the western end between the larger island and the adjacent wetland area along the inlet stream and channel.